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ICC-ES Evaluation Report

ESR-4336

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Issued 10/2019
This report is subject to renewal 10/2020.

DIVISION: 03 00 00—CONCRETE
SECTION: 03 21 00—REINFORCING STEEL

REPORT HOLDER:

N C COUPLER LLC

EVALUATION SUBJECT:

ONE TOUCH STEEL REBAR COUPLER



“2014 Recipient of Prestigious Western States Seismic Policy Council (WSSPC) Award in Excellence”



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A Subsidiary of the International Code Council®

DIVISION: 03 00 00—CONCRETE
Section: 03 21 00—Reinforcing Steel

REPORT HOLDER:

N C COUPLER LLC

ADDITIONAL LISTEE:

N C CO. LTD

EVALUATION SUBJECT:

ONE TOUCH STEEL REBAR COUPLER

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2018, 2015, 2012 and 2009 *International Building Code*® (IBC)

Properties evaluated:

- Structural

2.0 USES

The One Touch Steel Rebar Coupler System is used for tension and compression mechanical splices of uncoated, deformed steel reinforcing bars used in the design and construction of reinforced concrete members. The coupler complies with the requirements of Section 25.5.7.1 of ACI 318-14 (Section 12.14.3.2 of ACI 318-11 for 2012 IBC and -08 for 2009 IBC), as ACI 318 is referenced in IBC Section 1901.2. The coupler complies with the Type 1 and Type 2 mechanical splice requirements of Section 18.2.7.1 of ACI 318-14 (Section 21.1.6.1 of ACI 318-11 for the 2012 IBC and -08 for the 2009 IBC), for use where Type 1 or Type 2 mechanical splices are specified by the IBC and ACI 318.

3.0 DESCRIPTION

3.1 One Touch Steel Rebar Coupler:

The One Touch Steel Rebar Coupler consists of a main steel pipe with a ring inside it at the middle, two springs, two guards, two locks, and two caps as shown in Figure 1. The coupler parts are made of carbon steel except for the guards which are made from plastic. The coupler dimensions depend on the size of the reinforcing bar it is used for, as shown in Table 1. The couplers are available for splicing ASTM A615 Grade 60 and ASTM A706 Grade 60 deformed steel reinforcing bars in US Customary bar size Nos. 4, 5, 6, 7, 8, 9, 10, 11, and 18.

3.2 Reinforcing Steel Bars:

The reinforcing steel bars must be uncoated, deformed steel reinforcing bars complying with ASTM A615 Grade 60 or ASTM A706 Grade 60, for use with the One Touch Steel Rebar Coupler.

4.0 DESIGN AND INSTALLATION

4.1 Design:

The One Touch Steel Rebar Coupler splice system must be designed in accordance with the IBC and this evaluation report. All required spacing and concrete protection (cover) described in IBC Table 721.1(1) (2009 IBC Table 720.1(1)) and ACI 318 must be measured from the outside of the splice system. The bars must be designed as reinforcement of normalweight concrete in accordance with ACI 318, as amended in Chapter 19 of the IBC.

4.2 Installation:

All reinforcing bars must be clean and free from loose rust, oils, dust, and other foreign materials. All foreign matter and water must be removed from the coupler. The coupler system must be prepared and installed in accordance with the applicable code, the approved construction documents and the recommendations noted in the One Touch Steel Rebar Coupler installation manual. The coupler must be installed on the first rebar so that the bar end is in contact with the inner stopper inside the coupler's pipe, to assure the specified embedment length. The second reinforcing bar must be inserted through the other end of the coupler so that the second bar's end is in contact with the other side of the inner stopper inside the coupler's pipe.

4.3 Special Inspection:

Special inspection shall be provided at the jobsite as required by Section 1705 of the IBC (Section 1704 of the 2009 IBC). In addition to verifying placement of reinforcing bar mechanical splices, the special inspector shall verify field preparation of components (including field preparation of reinforcing bar ends, if applicable) and assembly of the components resulting in spliced reinforcing bars

5.0 CONDITIONS OF USE

The One Touch Steel Rebar Coupler Systems described in this report comply with, or are suitable alternatives to what is specified in, the code indicated in Section 1.0 of this report, subject to the following conditions:

- 5.1 The bars and coupler systems must be identified and installed in accordance with the applicable code, the manufacturer's instructions and this report. In case of conflict between the manufactured published

instructions and this report, the most restrictive governs.

- 5.2 Splice locations must comply with applicable IBC requirements and be noted on plans approved by the code official.
- 5.3 For One Touch Steel Rebar Coupler systems, the minimum concrete cover must be in accordance with applicable code, and must be measured to the outer surface of the coupler.
- 5.4 Special inspection must be provided in accordance with Section 4.3 of this report.
- 5.5 Under the IBC, as applicable, for structures regulated by Chapter 18 of ACI 318-14 (Chapter 21 of ACI 318-11 and -08 for the 2012 and 2009 IBC, respectively) as required by Section 1905.1 in the IBC, to splice uncoated, deformed longitudinal reinforcing bars resisting earthquake-induced moment, axial force, or both, in special moment frames, special structural walls, and all components of special structural walls including coupling beams and wall piers, with the One Touch Steel Rebar Coupler systems, mill certificate of reinforcing bars must be submitted to the code official as evidence that the steel reinforcing bars comply with Section 20.2.2.5 in ACI 318-14 (Section 21.1.5.2 in ACI 318-11 and -08 for 2012 and 2009 IBC, respectively).
- 5.6 The use of One Touch Steel Rebar Couplers in fire-resistance-rated construction, is outside the scope of this evaluation report.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Mechanical Splice Systems for Steel Reinforcing Bars (AC133), dated October 2015 (editorially revised May 2018).

7.0 IDENTIFICATION

7.1 The One Touch Steel Rebar Coupler label must bear the report holder’s name (N C Coupler) or the listee’s name (N C Co.), product name, product size, and the ICC-ES evaluation report number (ESR-4336).

7.2 The report holder’s contact information is the following:

N C COUPLER LLC
3972 BARRANCA PARKWAY
SUITE J482
IRVINE, CALIFORNIA 92606
(323) 287-4556
www.nccoupler.com

7.3 The additional listee contact information is the following:

N C CO. LTD
153-6 DONGBUK-RO 437BEON-GIL
SANGDONG-MYEON, GIMHAE-SI
GYEONGSANGNAM-DO
SOUTH KOREA
+82 (103) 556-7264
www.newcoupler.com

TABLE 1—DIMENSIONS OF ONE TOUCH STEEL REBAR COUPLERS

COUPLER ID	BAR DIA. (in.)	BAR SIZE		COUPLER DIMENSIONS (in.)		
		ASTM	JIS	Length	Outer Dia.	Inner Dia.
NC13	0.500	#4	D13	4	1 ¹ / ₄	5 ⁷ / ₈
NC16	0.625	#5	D16	4 ¹ / ₂	1 ¹ / ₂	1 ³ / ₁₆
NC19	0.750	#6	D19	4 ¹⁵ / ₁₆	1 ¹¹ / ₁₆	7 ⁷ / ₈
NC22	0.875	#7	D22	5 ⁷ / ₁₆	1 ¹⁵ / ₁₆	1
NC25	1.000	#8	D25	5 ¹⁵ / ₁₆	2 ³ / ₁₆	1 ¹ / ₈
NC29	1.128	#9	D29	6 ⁵ / ₁₆	2 ¹ / ₂	1 ⁵ / ₁₆
NC32	1.270	#10	D32	6 ³ / ₄	2 ¹¹ / ₁₆	1 ⁷ / ₁₆
NC35	1.410	#11	D35 & D36	7 ¹ / ₄	2 ⁷ / ₈	1 ⁹ / ₁₆
NC57	2.257	#18	D57	11 ¹ / ₂	4 ¹⁵ / ₁₆	2 ¹ / ₂

For SI: 1 inch = 25.4 mm.

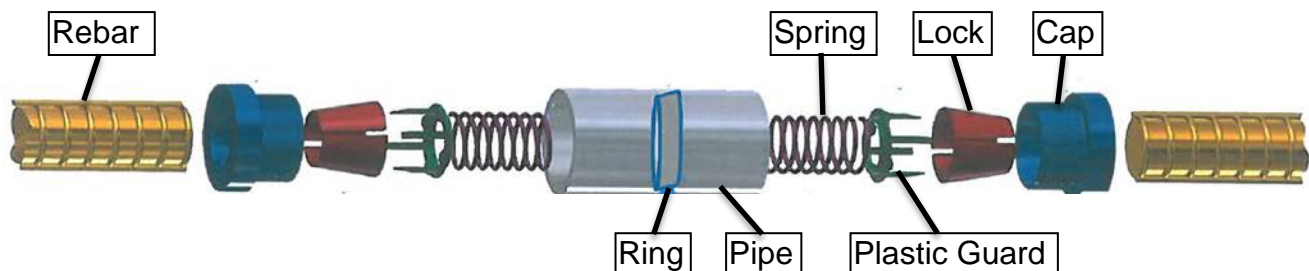


FIGURE 1—ONE TOUCH STEEL REBAR COUPLER